

Census of the Heronries of North Kerala

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Introduction

Heronries are communal nesting places of large water birds. Kerala has about 15 species of resident and breeding water birds, many of which establish mixed colonies at the time of breeding. Protection of heronries is very important for the conservation and management of these species, many of which are an integral part of our agricultural ecosystem. Documentation of these heronries, information the species breeding within our area and knowledge of the current status of our heronries are the first basic steps in the direction of chalking out a conservation strategy regarding these birds.

The current knowledge of the heronries of Kerala, apart from some stray published data, is solely dependent on the compilation and analysis done by S. Subramanya (Heronries of Kerala, *Malabar Trogon*: 3(1), 2005). In this study, 95 heronries in the State were listed, of which about 25 belonged to the north Kerala districts of Kasaragod, Kannur, Kozhikode, Malappuram and Wayanad. As the author himself admitted, this study was by no means comprehensive and several other heronries still remained without being reported.

The present census of the heronries of north Kerala is an endeavor to gather information on the heronries of this part of the State and this is the first time such a venture has been attempted in an organized manner.

Methods

Malabar Natural History Society and Kerala Forest Department had jointly organized a workshop at Kozhikode on 1st April 2006 to discuss the census strategies and to explain to the participants the methodology of the survey. Birdwatchers were identified in all the 5 districts of north Kerala so as to get maximum coverage. Data sheets to record the information with necessary instructions and contact numbers of the Forest Dept. personnel of the respective area to provide logistic support, transportation etc. were sent to the participants by May-June. The census was done in July and August, the months known to be the peak breeding season of water birds in the area.

During the census, the heronry was to be visited and all information on the number of nests of each species, the number of adult and young birds present, the activity

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of the birds, details of the location, information of the nest tree, data on the nearby wetlands etc. were noted in the prescribed data sheet. The history of the heronry, disturbances and threats, if any, also were noted. Whenever possible, participation of the local people was ensured and with this interaction, the problems of the heronry and the problems faced by the local people from the heronry were understood.

Results and Discussion

2927 nests of 9 water bird species were counted in all during the census from 53 sites. Two more species, which are non-colonial nesters, were also found to be nesting. Four species, which are rare nesters in Kerala were found in some of the heronries in an attempt to breed. The details regarding the breeding species of each site in all districts are given in Table 1. A complete account of the census with number of nests of each species

Table 1: Heronries of north Kerala

Districts	Kasaragod		Kannur		Kozhikode		Malappuram		Wayanad		Total	
Heronries	1		20		14		12		6		53	
Nests	120		1212		622		526		447		2927	
Species	2		5		5		4		5		9	
	Nests	Sites	Nests	Sites	Nests	Sites	Nests	Sites	Nests	Sites	Nests	Sites
Little Cormorant	100	1	369	10	331	12	299	9	31	3	1130	35
Indian Shag			1	1							1	1
Little Egret							27	6	67	2	94	8
Grey Heron			7	1							7	1
Purple Heron					1	1					1	1
Large Egret									6	1	6	1
Median Egret					2	1			250	4	252	5
Indian Pond Heron	20	1	736	18	217	7	101	8	87	4	1161	38
Black-crowned Night Heron			99	4	71	6	99	2	6	3	275	15
Lesser Whistling-Duck									1			
White-breasted Waterhen							3					

at each location and details regarding the sites, nest trees etc. are given as Appendix. Around 50 birdwatchers participated in the census along with people and students from the respective locality.

Distribution of heronries

The highest number of heronries (20), nesting species (5) as well as number of nests (1212) were recorded at Kannur Dt., followed by Kozhikode, Malappuram, Wayanad and Kasaragod districts. This may not represent the actual distribution of heronries in the districts and may just indicate the effort put in and the network of

experienced birdwatchers in each district. Even in Kanur Dt., there may be more heronries that have been left out. But still, these figures could be an indicator of the trend in the distribution of heronries.

Figure 1 shows the distribution of heronries in the study area. The maximum number of species breeding in any district is five and the minimum two. In Wayand, the average number of birds in the heronries is large and the six heronries had 447 nests in all belonging to five species.

Two sites in the list (Appendix) did not have any nests. At Naniyur, Kannur Dt., in a mangrove patch in Valapattanam river, 5 juvenile Great Cormorant *Phalacrocorax carbo*, 10 adult and 25 juvenile Indian Shag *Phalacrocorax fuscicollis* and several juvenile and adult Little Cormorant *Phalacrocorax niger* were seen on 5th July. Such a good number of juvenile birds definitely indicate that this is a breeding colony, probably used by early nesters. The local people also confirmed that there were nests in this mangrove patch. The low number of Indian Shag (1) at the Pamburuthi heronry, which is close by

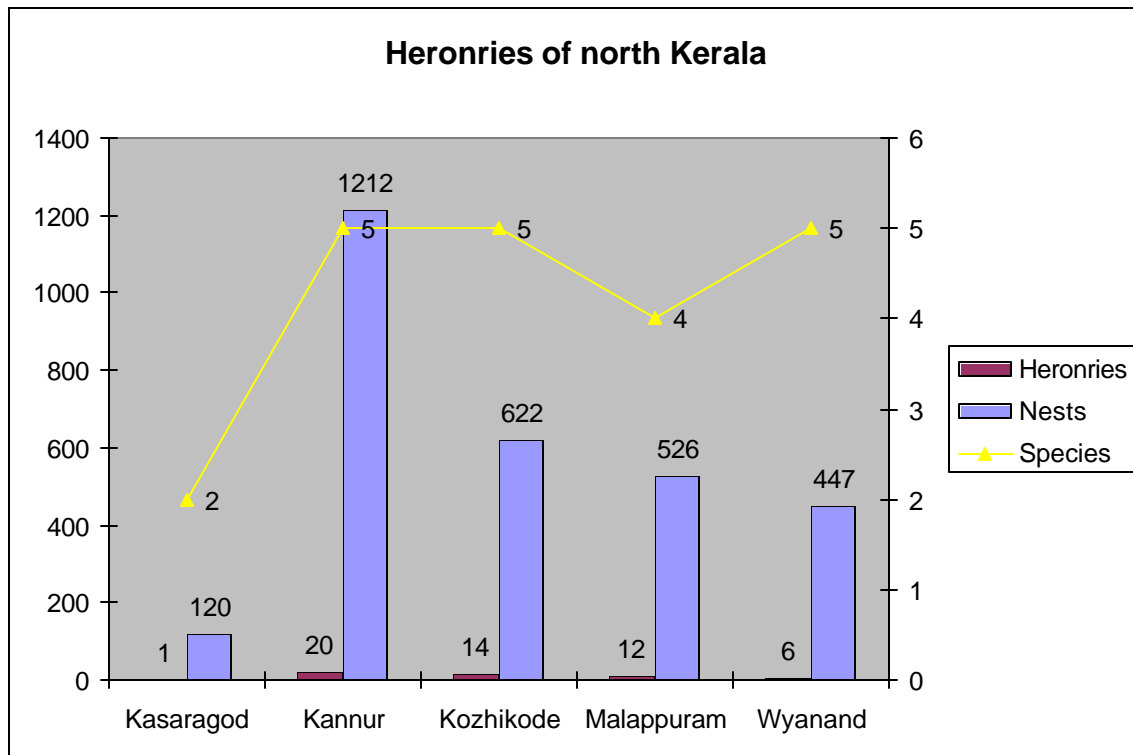


Fig.1

usually has about 25-30 nests of the Indian Shag; the Mango tree where this species nested last season has been cut down. Great cormorant is a recent colonizer in south Kerala, breeding at Periyar TR and Kumarakom, and has been occasionally seen in the wetlands of north Kerala (e.g.Kattampally) also. 21 Great Cormorants along with 3 Indian Shags were seen at Banasura Sagar Reservoir (Wayanad) on 21st July, but no nests were seen; these birds could be nesting around the reservoir.

Figure 2 shows the distribution of each species in the heronries. Indian Pond-Heron *Ardeola grayii* with 1161 nests in 38 heronries could be considered as the most numerous and the most widespread species (Fig.2, Table 1). Little Cormorant comes next, with 1130 nests in 35 heronries. Black-crowned Night Heron is the third with 275 nests in 15 breeding places. Median Egret *Egretta intermedia* and Little Egret *Egretta garzetta* follow next. Interestingly, all the three species of egrets - the abovementioned two species and Large Egret *Casmeroides albus* - breed together only at Panamaram, Wayanad. Median Egret was observed nesting in only one heronry other than those in Wayanad: 2 nests at Mavoor, Kozhikode; Little Egret nested at 6 sites in Malappuram. All the three species of egrets are common during winter in north Kerala and why they scarcely breed here is a subject to be investigated. Grey Heron *Ardea cinerea* was found to breed at only one site (7 nests at Koduvally, Kannur) so also the Purple Heron *Ardea purpurea* at one site at Ayancheri, Kozhikode.

Cattle Egret *Bubulcus ibis* is an abundant species in the study area (2715 birds counted from 51 sites during the Waterbird Census in January 2006), but they were not found breeding here. A pair each was seen at Mavoor (Kozhikode) and Panamaram (Wayanad) in breeding plumage in July, breaking twigs as if to build nest, but they did not nest and were not seen subsequently. At Kandal Thuruthu (Kannur), 30 Asian

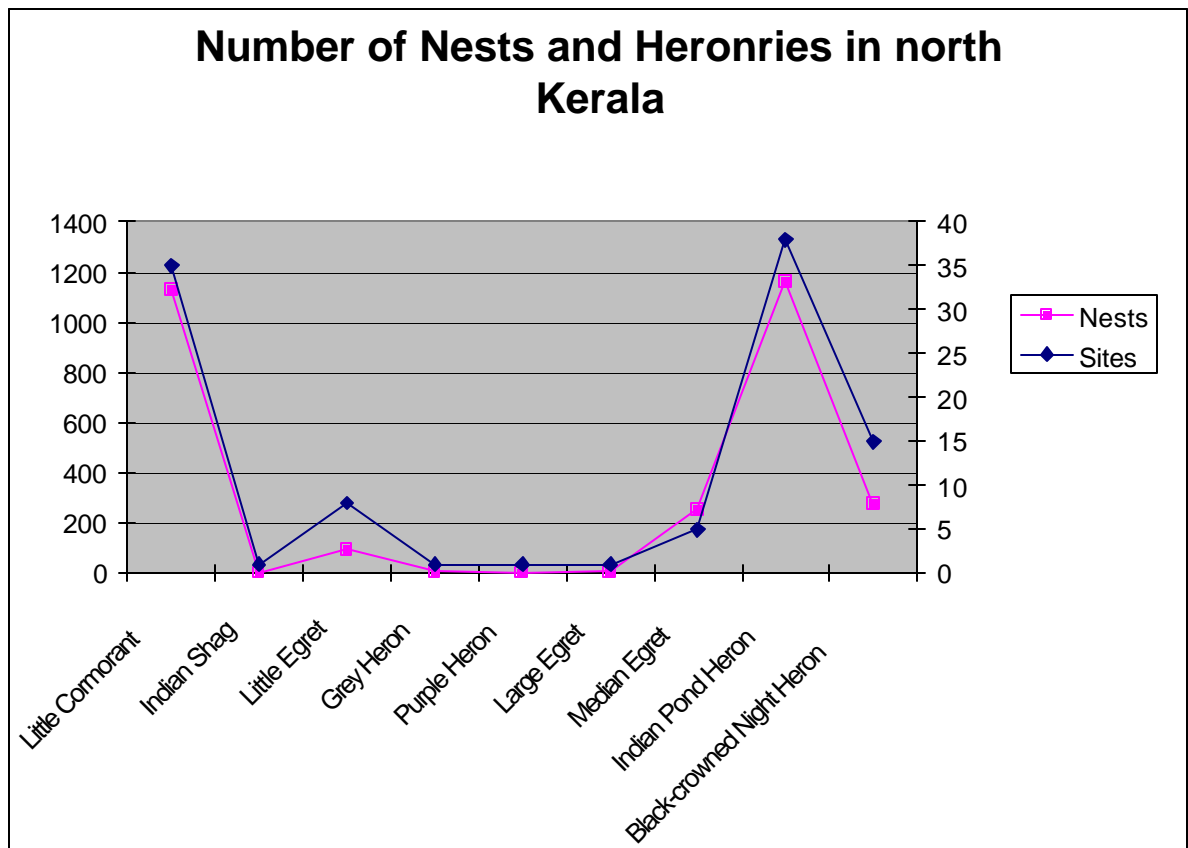


Fig. 2

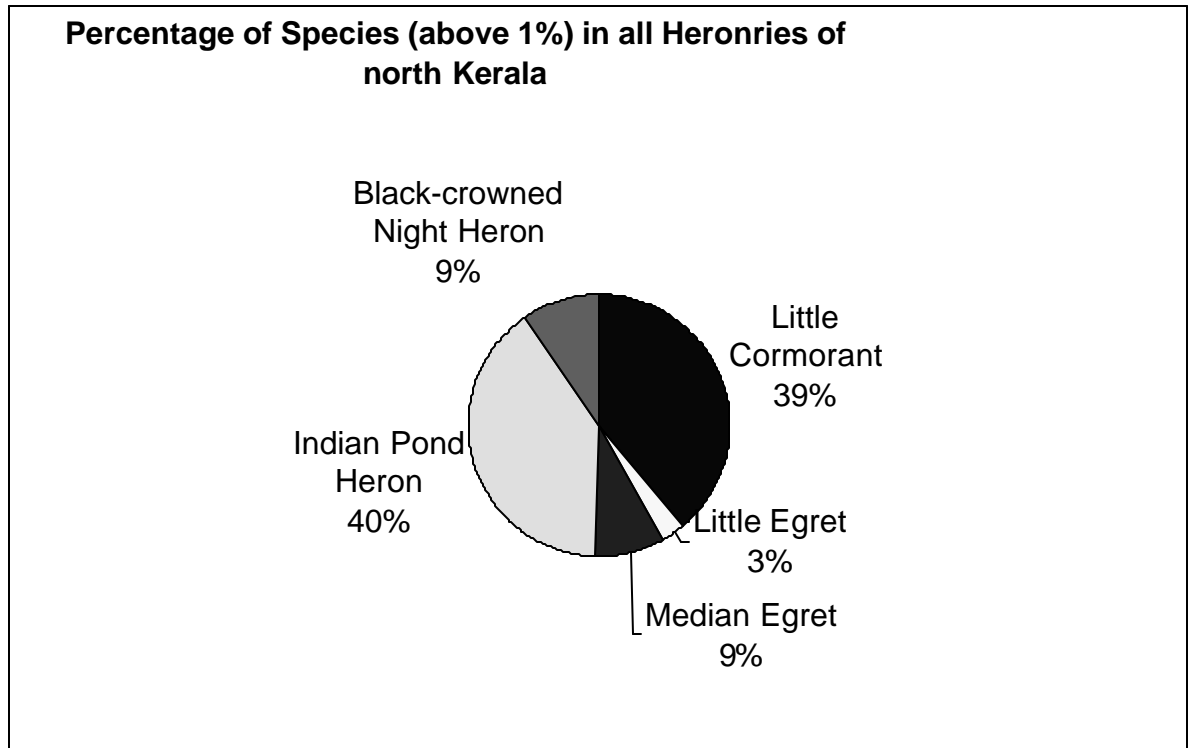


Fig.3

Openbill-Stork *Anastomus oscitans* and 6 Oriental White Ibis *Threskiornis melanocephalus* were seen in July; some of these were seen in the process of what seemed to be nest-building activities. Though the birds were still there, no nests could be found out. These two species have begun to breed in Kerala only recently.

A pair of Lesser Whistling-Duck *Dendrocygna bicolor*, a resident duck of Kerala, along with five chicks were seen at the banks of the Banasura Sagar Reservoir, Wayanad. White-breasted Waterhen *Amaurornis phoenicurus*, a common wetland species was seen nesting in a well at Ayanchery, Kozhikode.

Figure 3 shows the percentage-wise representation of the breeding waterbirds at the heronries. Taking into consideration species with more than 1 % share, five species dominate: Indian Pond Heron has a share of 40% closely followed by Little Cormorants with 39%. All the other 7 species combined occupies the remaining share.

Nest Trees

28 species of trees are used by the birds for nesting. Table 2 shows the list of the species of trees and the number used. Bamboo standing at the riverbank is used extensively in many heronries at Wayanad. Banyan, Cheeni, Jack, Mango, Rain tree and Tamarind seem to be the most favored nest trees. These species account to 64.55 % of all the nest trees (excluding Bamboo: to get the accurate count of the plants among the clump is difficult). The birds must be utilizing whatever suitable trees are locally available: the extensive use of Cheeni in certain part of Malappuram dt. is an example.

General acceptance of the exotic Rain Tree must be because of the fact that it is planted everywhere in the area as a roadside tree.

Table 2: Nest Trees

Sl. No.	Common Name	Scientific name	Number
1	Arali	Sp.?	1
2	Aranamaram	<i>Polyalthia longifolia</i>	2
3	Badam	Sp.?	2
4	Bamboo	Sp.?	
5	Banyan	<i>Ficus religiosa</i>	13
6	?	<i>Cassia</i> sp.	1
7	Cheeni	<i>Tetrameles nudiflora</i>	14
8	Chenthamarai	<i>Elaeocarpus</i> ?	1
9	Coconut Palm	<i>Cocos nucifera</i>	3
10	Ezhilam Pala	<i>Alstonia scholaris</i>	5
11	Gulmohur	<i>Delonix regia</i>	6
12	Jack	<i>Artocarpus heterophyllus</i>	18
13		<i>Lagerstroemia</i> Sp.?	3
14	Mango	<i>Mangifera indica</i>	33
15	Mangrove	Sp.?	
16	Muringa (Drumstick Tree)	<i>Moringa oleifera</i>	1
17	Pine	Sp.?	1
18	Poovarasu	<i>Thespesia populnea</i>	1
19	Rain Tree	<i>Samanea saman</i>	24
20	Sheema Pilavu	Sp.?	1
21	Silver Oak	<i>Grevillea robusta</i>	1
22	Soap Nut tree	<i>Sapindus</i> Sp.	2
23	Tamarind	<i>Tamarindus indica</i>	14
24	Thani	<i>Terminalia bellirica</i>	2
25	Ungu	<i>Pongamia pinnata</i>	1
26	Vaka	<i>Albizia</i> Sp.	1
27	Vatta	<i>Macaranga peltata</i>	1
	Unknown		6
Total Number of Nest Trees			158

Table 3: Height class preference

Height Class (m)	Percent
6 - 10	68.3 %
12 - 15	20.3 %
15 - 20	5.7 %
> 25	5.7 %

The height class of the nest trees preferred by the birds is given in Table 3. 6-8 m class seems to be the most preferred, but here too, it might be a case of availability rather than choice.

Location of the heronries

Location of the heronries provides several interesting aspects (Table 4). Majority of the heronries (62.26 %) are located along the roads – many of them on the National Highways – and most of them are in small towns or bazaars at busy crossroads. Almost all these trees stand on the land owned by the Public Works Department. This, together with heronries in public building compounds and revenue land accounts for 81.11 % of the land where the heronries are situated. House compounds, paddyfields etc. are the location of rest of the heronries.

Table 4: Location of the Heronries

Sl. No.	Location of the Heronry	Sites	Percentage	Ownership	Threats
1	Roads, Small Towns	33	62.26 %	P.W.D	Road widening, complaint from traders
2	Riverbank	3	5.66 %	Revenue Dept.	
3	Reservoir	1	1.88 %	Revenue Dept.	
4	Compounds of Govt./Public Buildings	4	7.55 %	Govt.	
	<i>School Compound</i>	1			Trees under threat.
	<i>Food Corporation of India, Godown Compound</i>	1		Central Govt.	Some trees cut down this season
	<i>Hospital Compound</i>	1		Public Health Dept.	
	<i>Police Station Compound</i>	1		State Govt.	
5	Mangrove islet	2	3.76 %	Revenue	
6	Others	10	18.86 %	Mostly private	Depends on the decision of the owner
	<i>Pandanus clump (paddyfield)</i>	1		Private	
	<i>House Compound</i>	6		Private	
	<i>No information</i>	3			
Total		53			

All the heronries here are located within human habitations – in a thickly populated state like Kerala there are very few isolated areas especially in the coastal area and midlands where all the heronries are situated; in Wayanad also, which lies in the highland region, the situation is the same for waterbirds. This is a peculiar situation, when compared to the heronries of other states.

Major Heronries

There are 10 heronries with more than 100 nests. Panamaram (278), Pamburuthi-Kandalthuruthu (269), Koduvally (250) and Ramanattukara (248) are the most populated heronries in north Kerala.

Conservation

As mentioned already, the majority of the heronries are located in govt. land and this should, automatically, have ensured their conservation. But, unfortunately, this is not the case. As it happens often, many roadside trees are cut every year. Some of the nest trees at the Food Corporation of India Godown compound were cut down during this breeding season and the timely intervention of some enlightened local people and the support from the Forest Department prevented further disaster.

At many heronries, the local people considers the nesting birds as a nuisance and often drive them away even before the commencement of the breeding season. This is a serious problem, apart from instances of killing for the pot.

Recommendations

1. A more detailed census should be organized during the next breeding season so as to cover the maximum number of heronries in the area (Please find the data sheets attached in this issue of *Malabar Trogon*).
2. Further study should be conducted to assess the threats to the heronries.
3. People's participation should be ensured in the conservation of the heronries making them aware of the importance of waterbird conservation.

Acknowledgements

We thank all birdwatchers who enthusiastically participated in this survey and supplied us the data.